Treehoppers of Certain Mississippi River Islands (Homoptera, Membracidae) [1]

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During 1968 a study was made to determine the treehopper species, their hosts and seasonal incidences on the islands of the Mississippi River between miles 621 and 623 on the Corps of Engineers Navigation Chart. This is eight to ten miles below the point where the Wisconsin River flows into the Mississippi. The work was supported in part by a research grant from the Board of Regents of Wisconsin State Universities. To the Board and to my wife, Maxine, who aided in collections I wish to express my appreciation.

The precise number of islands varied somewhat, depending on water level, but for most of 1968 these numbered 52. They range in size from about six by three feet to slightly over a mile in length by about one-sixteenth of a mile in width. Most are rather long, slender and of alluvial formation. All of them are low-lying and subject to periodic flooding. The usual spring flood did not occur in 1968. However, there was an atypical moderate flooding during late June and the first half of July.

Considering the islands as a whole, the dominant tree species are silver maple and American elm. However, the conditions described by Curtis (1959) with reference to the wet segment of Wisconsin southern lowland forests prevail: "The average values in Table VIII—1 tend to obscure the fact that several different combinations of species are included within the wet segment. On pioneer sites along sand bars, mud flats, and other open places of recent soil disturbance near the water's edge, the usual forest is dominated by black willow (*Salix nigra*) and cottonwood (*Populus deltoides*). On open sites near the upland edge of the wet ground, river birch and swamp white oak (*Quercus bicolor*) are the usual dominants. As both of these types mature, they are invaded by silver maple (*Acer saccharinum*) and American elm (*Ulmus americana*), thus accounting for the high values attained by these species in the averages." The shrubs are few, but there is a growth of lianas, principally poison ivy, woodbine and grape. Poison ivy in its low-lying form is the prevalent ground cover over many of the islands, particularly those which have progressed beyond the black willow–cottonwood stage.

Weekly observations and collections were made from mid-May through September and twice in October. Records were obtained by direct observa-

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tion, by collecting from a boat with a net at the end of fifteen foot pole and by net while walkng on the islands. (Yes, I fell out of the boat once.)

Of the 52 islands, 17 yielded treehoppers, all of which were collected from swamp white oak only. Adult *Cyrtolobus discoidalis* (Emmons) and *C. maculifrontis* (Emmons) were found throughout June; *C. helena* Woodruff and *C. querci* (Fitch) throughout June and early July; *C. pallidifrontis* (Emmons) throughout June, July and early August. One adult specimen of *Xantholobus muticus* (Fabricius) was collected on June 23. A single nymph of *Telamona* Fitch *sp.* was found on July 28. In both Wisconsin (Dennis and Dicke, 1953) and Oklahoma (Dennis, 1963) males of *Cyrtolobus* and *Xantholobus* were found on the same trees as the females. However, while all species known from these islands are represented by females, only *C. helena* Woodruff and *C. pallidifrontis* (Emmons) also included males.

The seven kinds of treehoppers known to inhabit these islands compare with the 45 species I have found on adjacent bluffs and farmlands in Wisconsin. Plants such as red oak, bitternut hickory, American elm, basswood, haw, stinging nettle, woodbine and grape which have produced adult treehoppers in mainland areas are growing on the islands but are devoid of membracids. The only nymphs noted were those of *Cyrtolobus sp.* and the one telamon, all of which were found on swamp white oak only; none were noted on groundlayer herbaceous plants. Since some treehoppers utilize herbaceous hosts as nymphs and trees as adults it would appear that only those which may inhabit swamp white oak as both nymphs and adults are present.

Literature Cited

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